

Attorney Docket No. _____

Patent
015290-500

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAIL STOP AMENDMENT

In re Patent Application of

Si Yi LI et al.

Application No.: 09/820,695

Filing Date: March 30, 2001

Title: METHOD OF PLASMA ETCHING LOW-K DIELECTRIC MATERIALS

Group Art Unit: 1763

Examiner: A.W. Olsen

Confirmation No.: 4162

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

☐ A Petition for Extension of Time is also enclosed.☐ Terminal Disclaimer(s) and the ☐ \$65.00 (2814) ☐ \$130.00 (1814) fee per
Disclaimer due under 37 C.F.R. § 1.20(d) are also enclosed.☐ Also enclosed is/are _____

_____☐ Small entity status is hereby claimed.☐ Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the
☐ \$395.00 (2801) ☐ \$790.00 (1801) fee due under 37 C.F.R. § 1.17(e).☐ Applicant(s) requests that any previously unentered after final amendments not be entered.
Continued examination is requested based on the enclosed documents identified above.☐ Applicant(s) previously submitted _____

on _____
for which continued examination is requested.☐ Applicant(s) requests suspension of action by the Office until at least _____,
which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R.
§ 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.☐ A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also
enclosed.

- ☒ No additional claim fee is required.
- ☐ An additional claim fee is required, and is calculated as shown below.

AMENDED CLAIMS					
	No. of Claims	Highest No. of Claims Previously Paid For	Extra Claims	Rate	Additional Fee
Total Claims	23	MINUS 24 =	0	x \$50.00 (1202) =	\$ 0.00
Independent Claims	2	MINUS 3 =	0	x \$200.00 (1201) =	\$ 0.00
If Amendment adds multiple dependent claims, add \$360.00 (1203)					
Total Claim Amendment Fee					\$ 0.00
<input type="checkbox"/> Small Entity Status claimed - subtract 50% of Total Claim Amendment Fee					\$ 0.00
TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT					\$ 0.00

- ☐ A check in the amount of _____ is enclosed for the fee due.
- ☐ Charge _____ to Deposit Account No. 02-4800.
- ☐ Charge _____ to credit card. Form PTO-2038 is attached.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

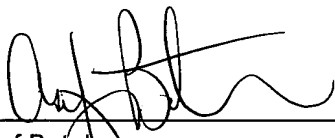
Respectfully submitted,

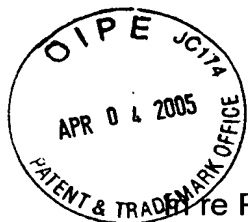
BURNS, DOANE, SWECKER & MATHIS, L.L.P.

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: April 4, 2005

By


Asaf Batelman
Registration No. 52,600



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Patent Application of

S. Y. LI et al.

Application No.: 09/820,695

Filed: March 30, 2001

For: METHOD OF PLASMA ETCHING
LOW-K DIELECTRIC MATERIALS

) **MAIL STOP AMENDMENT**

)
) Group Art Unit: 1763

)
) Examiner: A. W. Olsen

)
) Confirmation No.: 4162

INTERVIEW SUMMARY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants' undersigned representative thanks Examiner Olsen for the courtesy of the telephonic interview with the undersigned on February 17, 2005. A proposed amendment to Claim 1, as well as differences between U.S. Patent Nos. 6,693,042 ("Sedigh"), 5,843,847 ("Pu"), and 6,455,411 ("Jiang") and independent Claims 1 and 22, were discussed. Applicants thereafter filed an Amendment on February 22, 2005, referencing the telephonic interview of February 17, 2005.

Applicants' undersigned representative explained that Sedigh does not disclose or suggest an oxygen-free single-fluorocarbon etching gas comprising at least one nitrogen reactant, a single fluorocarbon reactant represented by C_nF_m wherein n is at least 4 and m is at least 6, and optional carrier gas; a total fluorocarbon reactant flow rate less than a nitrogen reactant flow rate; or a etch rate selectivity of the etching rate of the low-k dielectric layer to the etching rate of the mask layer of at least about 5.

Applicants' undersigned representative further explained that Pu does not disclose or suggest an oxygen-free etching gas.

Applicants' undersigned representative additionally explained that Jiang does not disclose or suggest an oxygen-free single-fluorocarbon etching gas, comprising at least one nitrogen reactant, a single fluorocarbon reactant represented by C_nF_m wherein n is at least 4 and m is at least 6, and optional carrier gas, for etching openings while providing a etch rate selectivity of the etching rate of a low-k dielectric layer to the etching rate of a mask layer of at least about 5.

If, upon further consideration, any concerns or issues remain unresolved, the Examiner is respectfully requested to contact the undersigned so that such issues can be most expeditiously resolved.

If there are any questions concerning this paper, or the application in general, Applicants invite the Examiner to telephone the undersigned at his earliest convenience.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: April 4, 2005

By: _____


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Registration No. 52,600

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